An Event-Aware Model for Metadata Interoperability

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Harmony Project

- Project Investigators
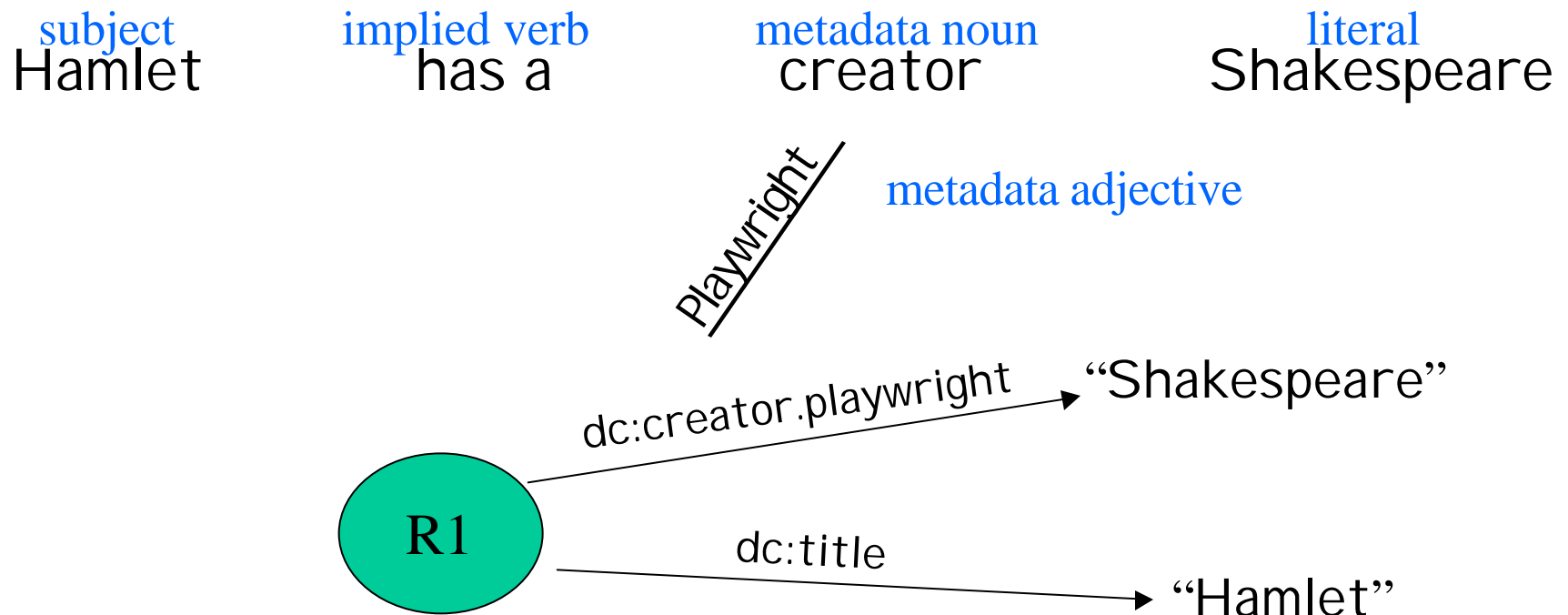 - Dan Brickley - ILRT, Bristol (U.K.)
  - Jane Hunter - DSTC, Brisbane (Australia)
  - Carl Lagoze - Computer Science, Cornell (U.S.)
- More Information
  - http://www.ilrt.bris.ac.uk/discovery/harmony/

Attribute/Value approaches to metadata...

The playwright of Hamlet was Shakespeare

subject
Hamlet

implied verb
has a

metadata noun
creator

literal
Shakespeare

Playwright

metadata adjective

dc:creator.playwright → "Shakespeare"

R1

dc:title → "Hamlet"

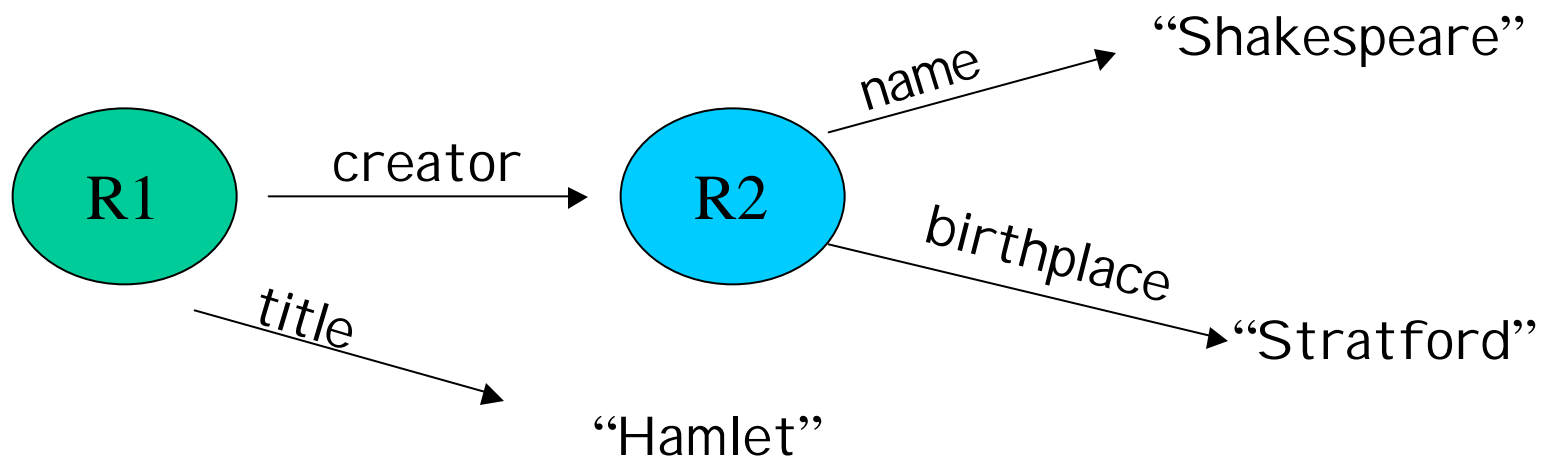# …run into problems for richer descriptions…

The playwright of Hamlet was Shakespeare,
who was born in Stratford

Hamlet   has a   creator   Stratford
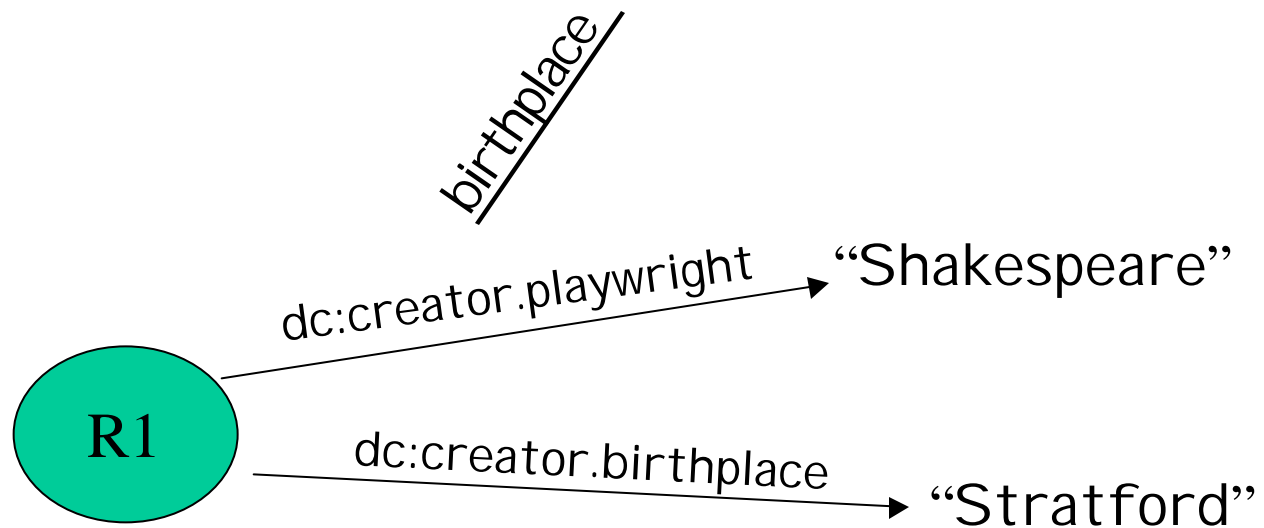
…because of their failure to model entity distinctions

Applying a Model-Centric Approach

- Formally define common entities and relationships underlying multiple metadata vocabularies

- Describe them (and their inter-relationships) in a simple logical model

- Provide the framework for extending these common semantics to domain and application-specific metadata vocabularies.

Applications of the ABC Model

- Guidance for communities developing vocabularies
- Foundation for understanding existing vocabularies
- Basis for mappings among vocabularies using formalisms such as RDF

Harmony/ABC Workshop

- January 27-28 2000 CNI Washington
- Representatives from
  - Dublin Core, INDECS, MPEG-7, IFLA
  - Archives, Museums, Libraries, Audiovisual
- Result: Importance of processes, events, and states in understanding and describing resources

Conceptual Basis:
Evolution of Content over Time

IFLA Entity Model

Figure 2: Based on IFLA FRBR Figure 3.1
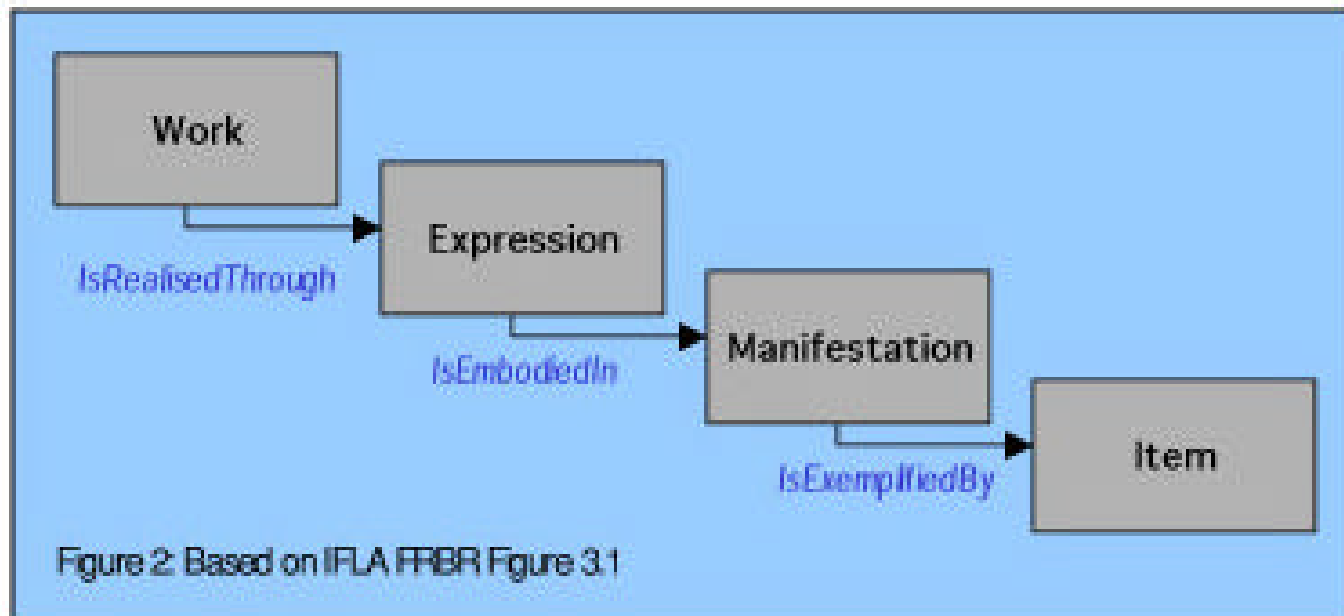
From Bearman, et. al., *D-Lib Magazine,* January 1999.

Events are key to understanding metadata relationships?

- Implicit in evolution of content as modeled by IFLA FRBR - transformation of "input" resources to "output" resources and their descriptions
- Modeling implied events as first-class objects provides attachment points for common entities – e.g., agents, contexts (times & places), roles.
- Clarifying attachment points facilitates mapping across common entities in different vocabularies.
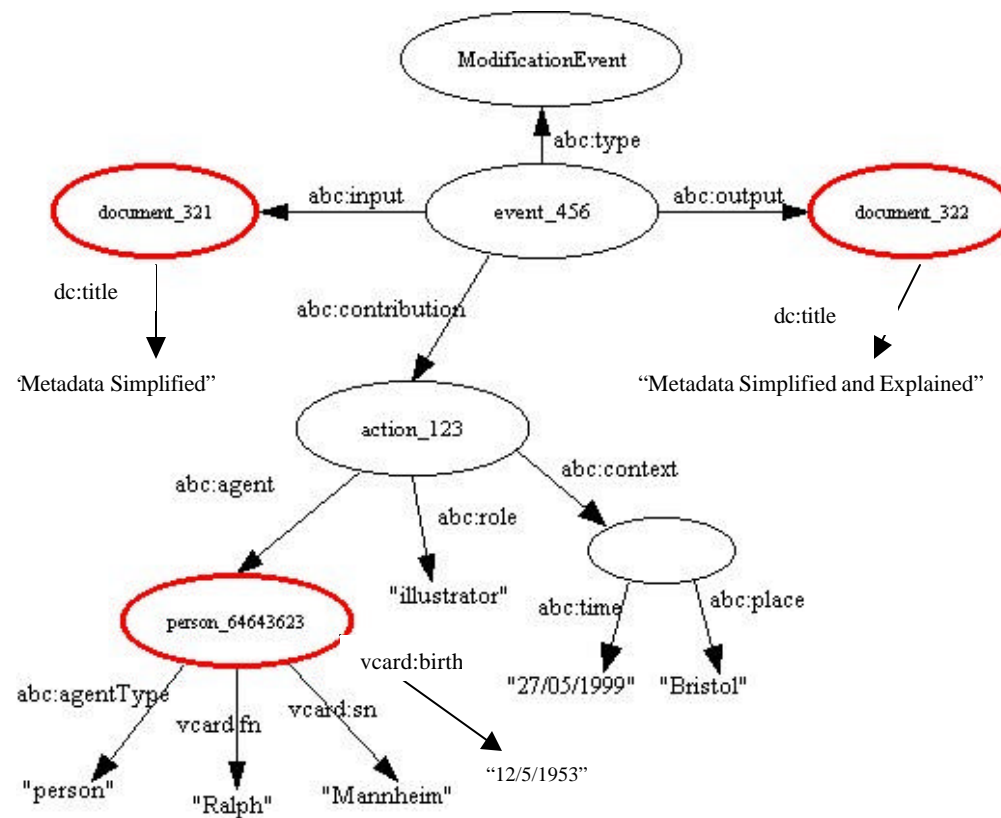
# Content, Events, & Descriptions
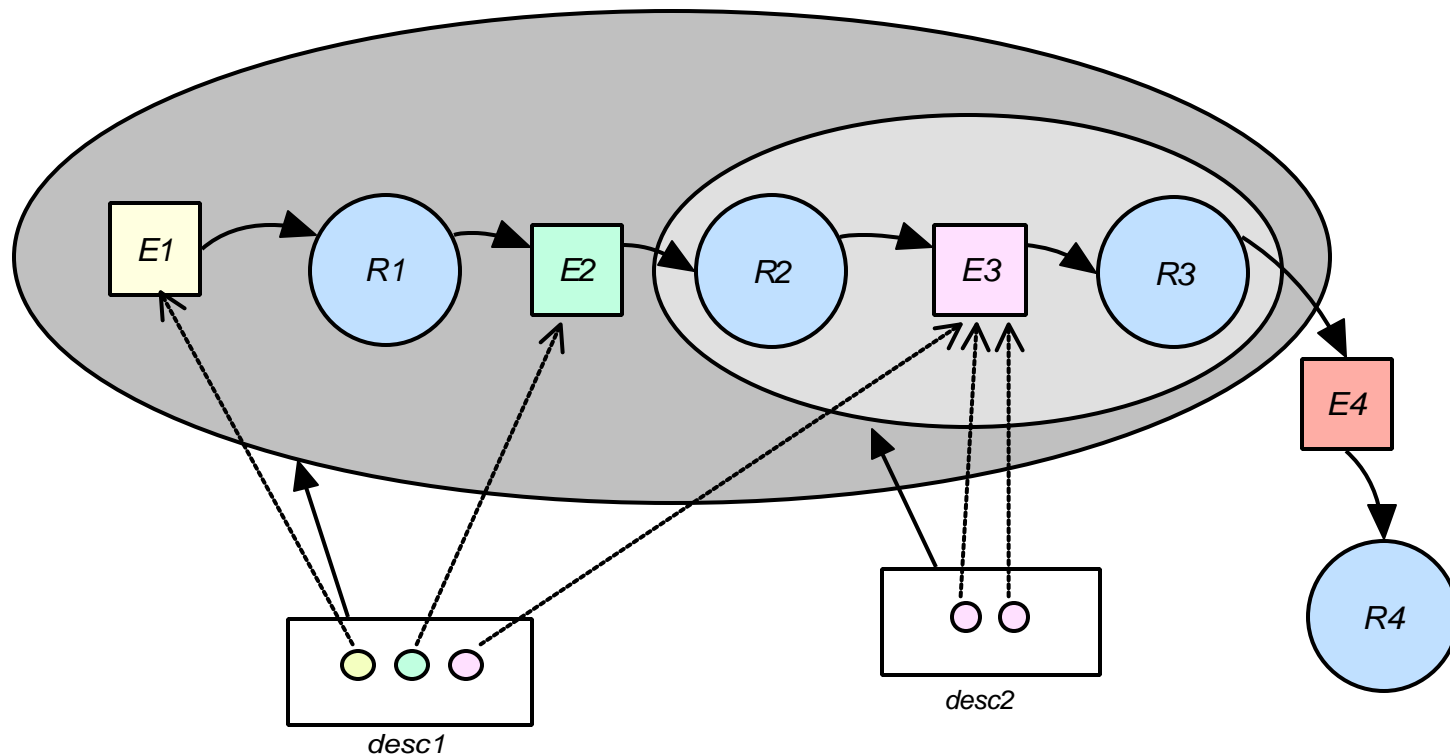
# ABC Event Model
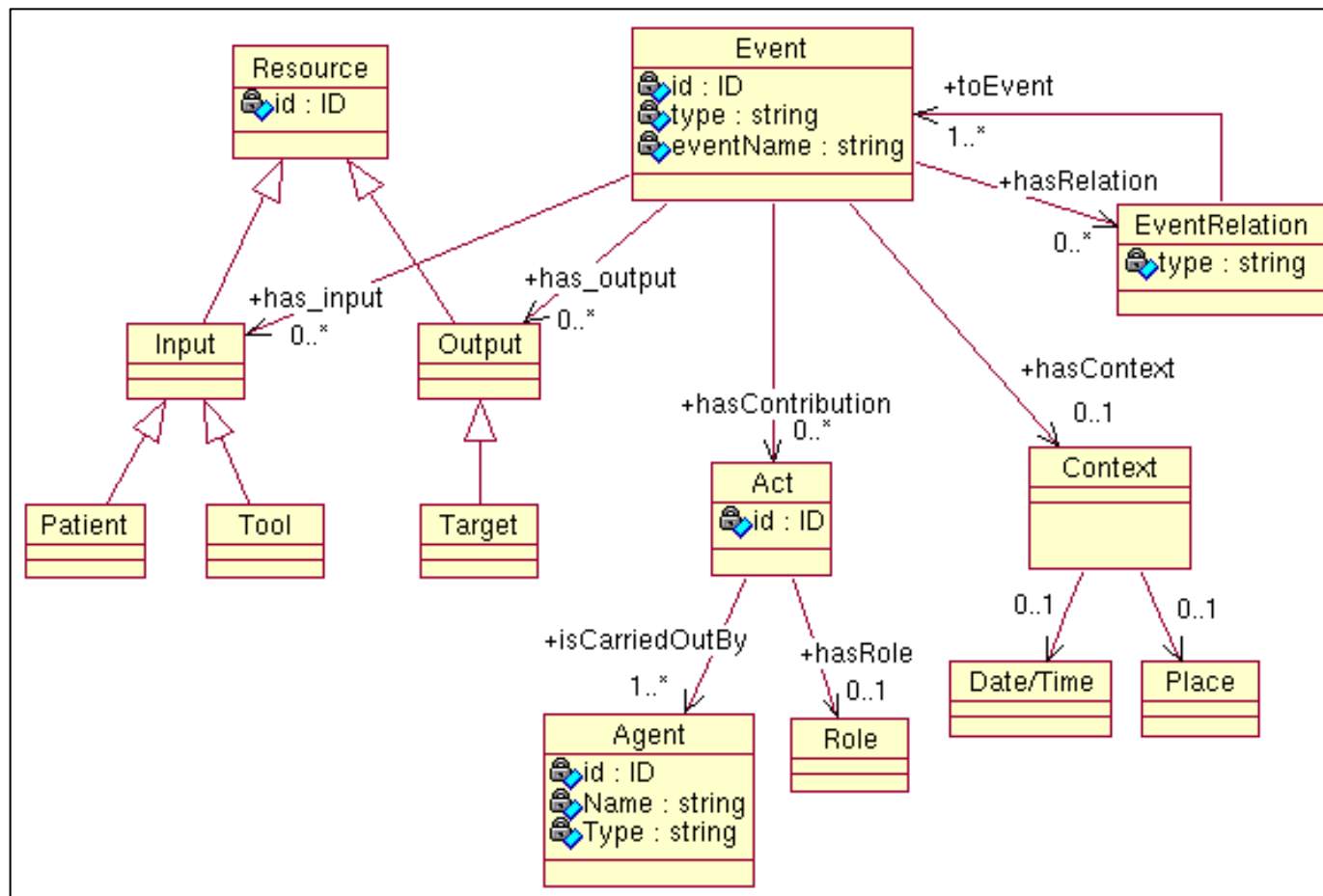
# Event-Aware Model

Experiment - Applying the Model

- Online Oral History Archive
  - *From Lunchroom to Boardroom*
- Women in the Labor Movement in Queensland 1930s-1960s
- 16 interviews + 100s of photos ->
  40x26 min tapes + 4 A2 posters
- Multimedia archive with complex history of rights and resource versions

ABC Model of the Project
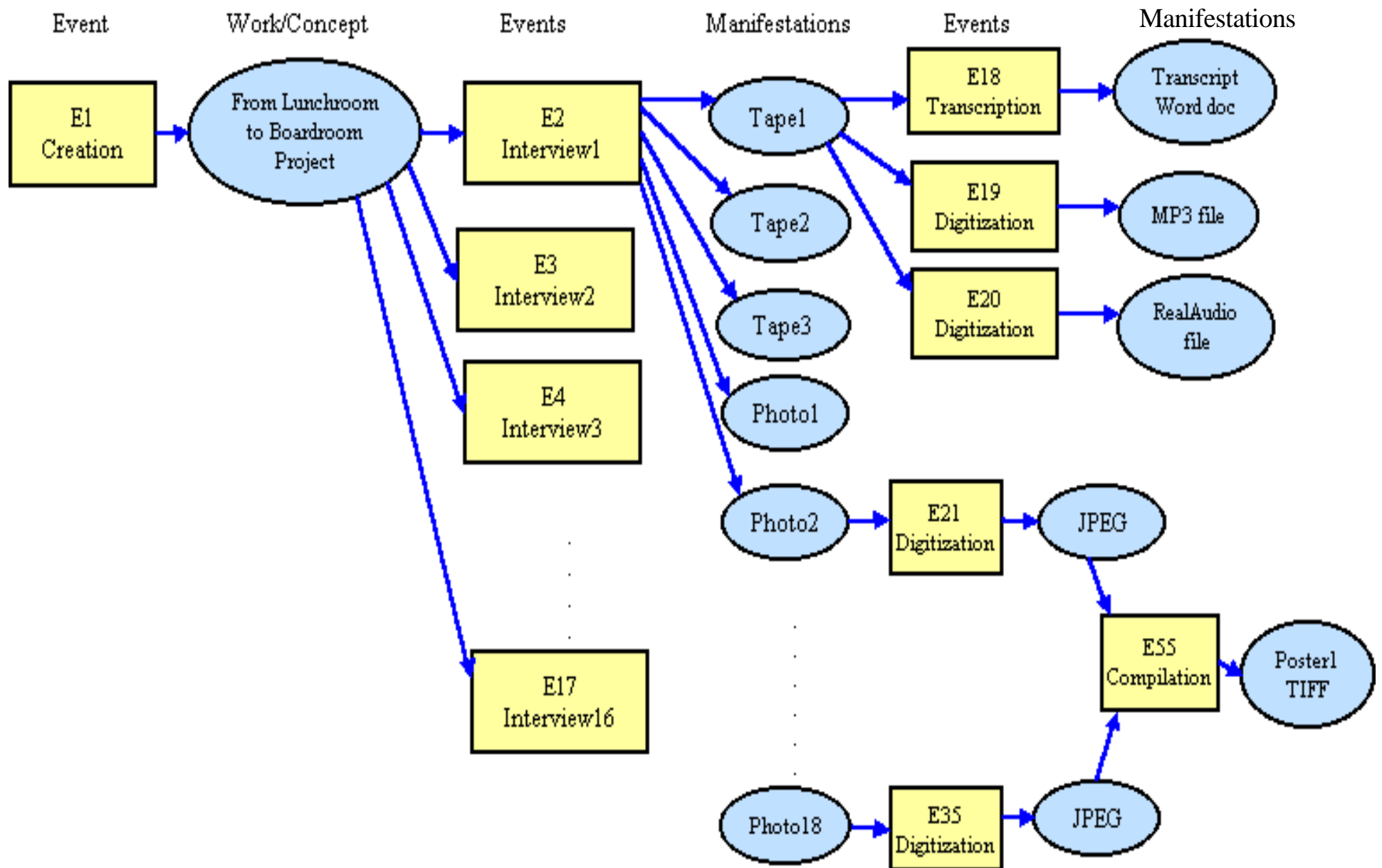
ABC Event Model of Concept Creation and Interview
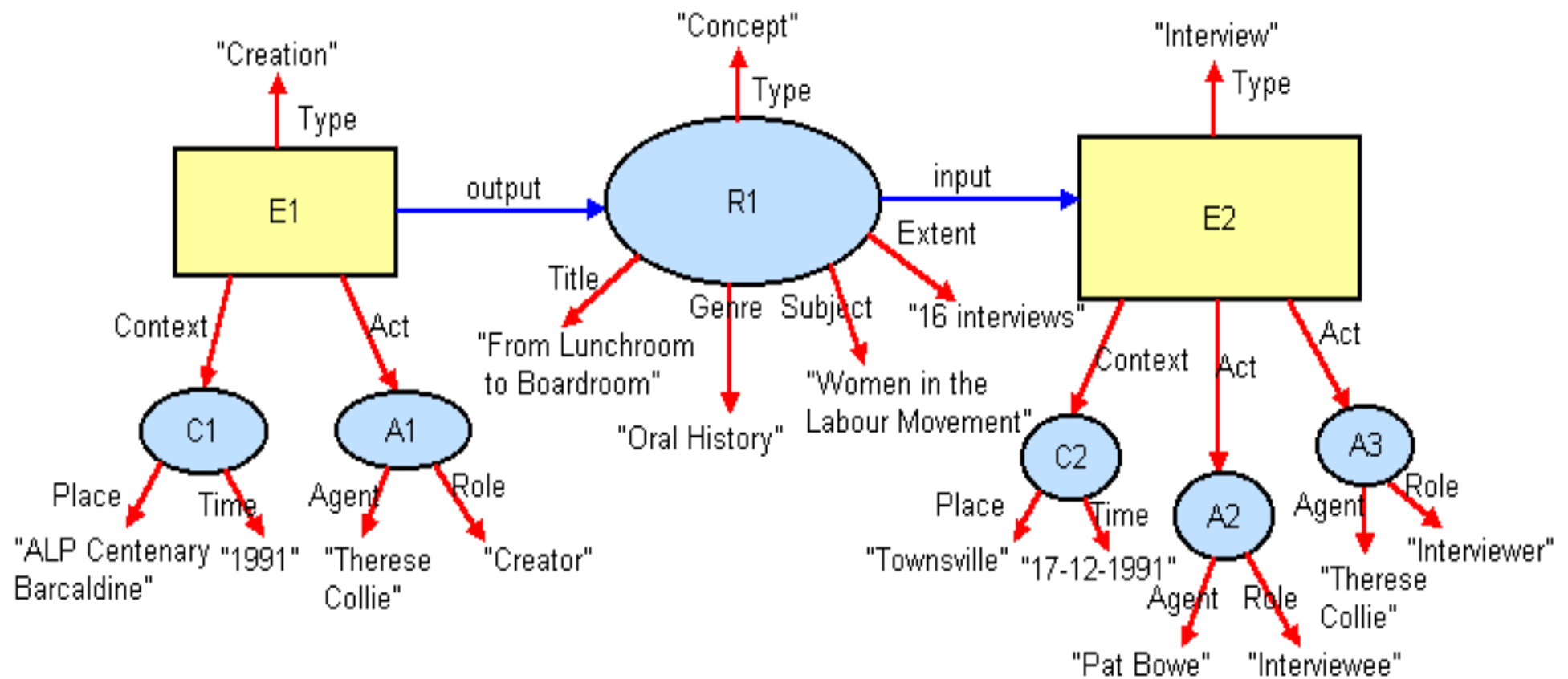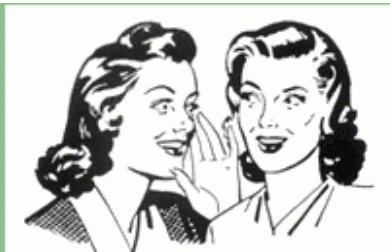
"FROM LUNCHROOM TO BOARDROOM"

Stories and Images of Women's Achievements in the Labour Movement 1930's – 1960's

"From Lunchroom to Boardroom" combines oral, written and visual art techniques to highlight the achievements of older women in the labour movement.

Working with the Oral History Association of Queensland, the Union of Australian Women and the Trades and Labour Council, oral historian, Therese Collie and visual artist, Judith Hewitson, have recorded stories and images of women of varied backgrounds throughout Queensland to:

- preserve their unique oral histories on audio tape, and
- produce a series of posters which will provide a positive image of women, that can be distributed in a broad range of work places.
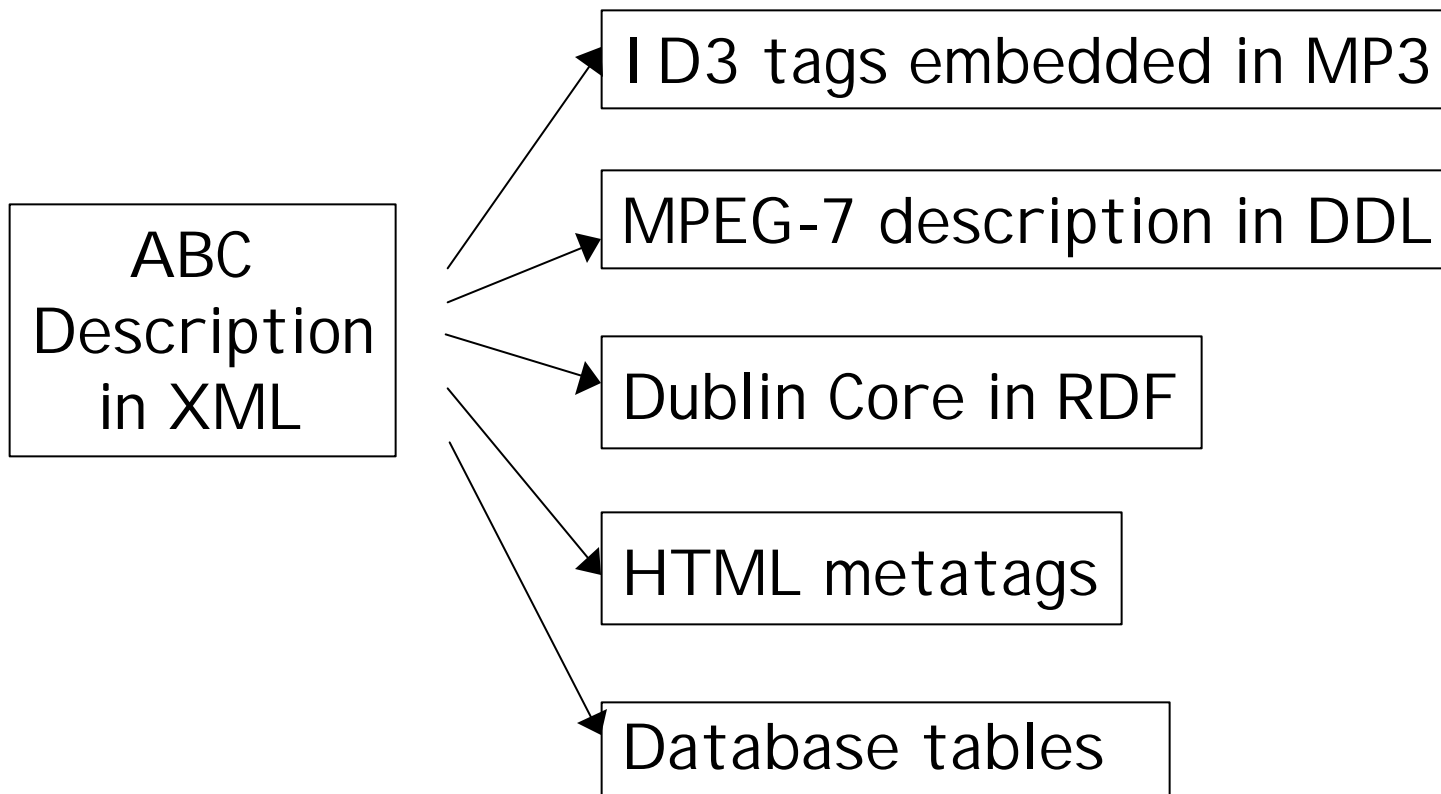
Oral History SEARCH

- **Search and Browse Transcripts**
- **Select Transcript by Interviewee**
  - Connie Healey, TLC, WWFA, FCU
  - Vi Cox, Townsville ALP
  - Susie Dickson, Townsville LGWA
  - Frances Bishop, Townsville UAW
  - Julba Julba Woman Dance Troupe,
  - Lorna Thompson, Townsville UAW
  - Pat Bowe, Townsville QTU
  - Bessie Lymburner, TNS Aboriginal Health
  - Elena Timms FMWU

Metadata Output Options

ABC Description in XML

- ID3 tags embedded in MP3
- MPEG-7 description in DDL
- Dublin Core in RDF
- HTML metatags
- Database tables

Querying RDF/ABC

- ## Start Simple
  - Perl, Procedural, Hard-Coded
- ## Leveraging tools from the logic/inference community
  - Logic/RDBMS middleware
- ## Tools from the RDF community
  - API's, storage, query languages, etc.
  - E.g., RDF queries rewritten for SQL/ODBC serviced by Access

Next Steps with the Model

- CIMI Experiments
  - Dublin Core for basic resource descriptions
  - Richer descriptions derived from ABC model
  - Mapping among descriptions
- Similarity with Recordkeeping Metadata Issues
  - SPIRT Project
- Application to Prism policy enforcement metadata